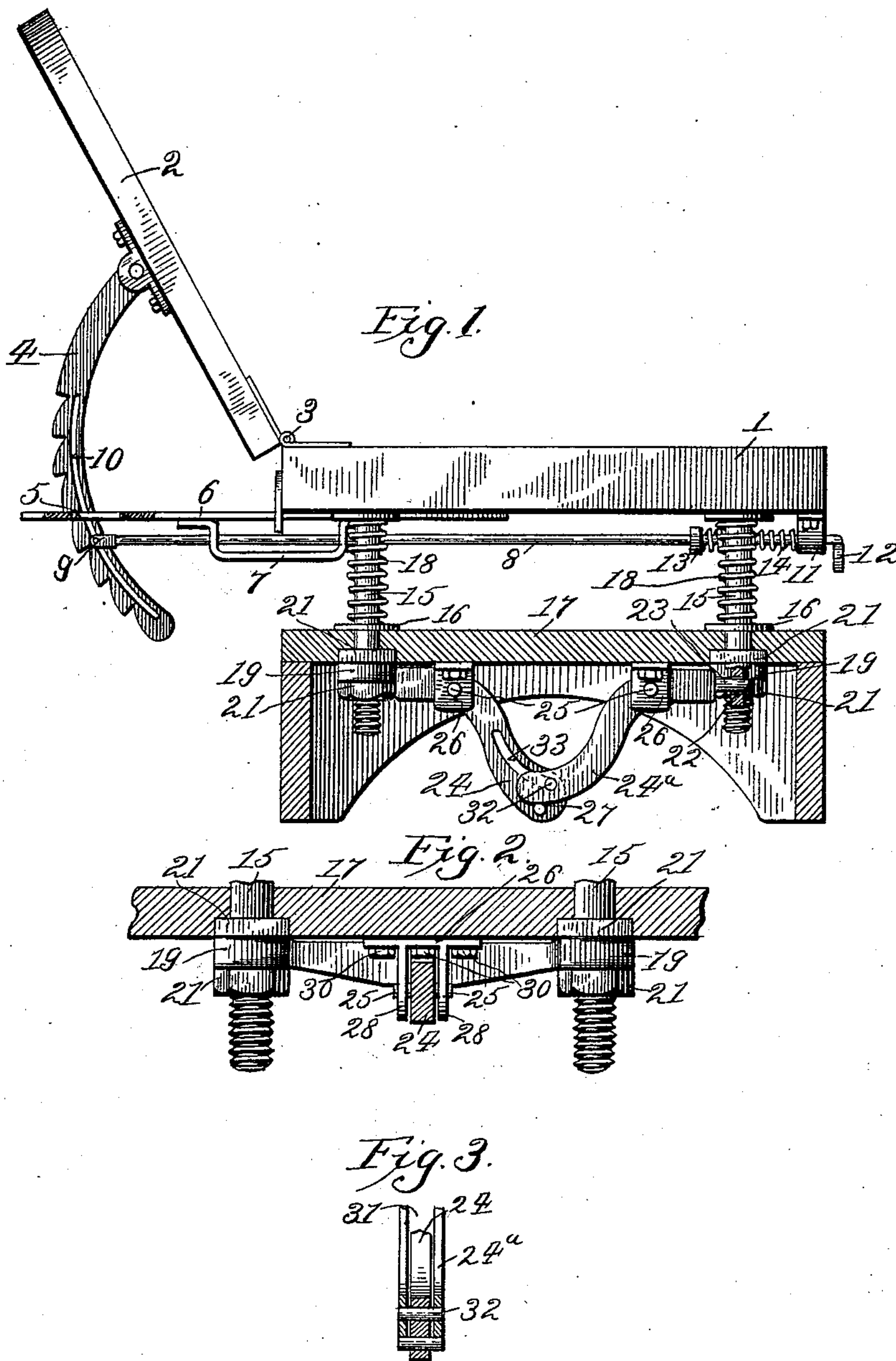


(No Model.)

J. H. HOUSMAN.
SPRING SEAT.

No. 564,199.

Patented July 21, 1896.



Witnesses:
Herbert Bradley
Walter E. Allen

Inventor:
James Henderson Housman
by Knight Bros
Attys.

UNITED STATES PATENT OFFICE.

JAMES H. HOUSMAN, OF CLIFTON FORGE, VIRGINIA, ASSIGNOR OF ONE-HALF TO CHARLES F. JORDAN, OF SAME PLACE.

SPRING-SEAT.

SPECIFICATION forming part of Letters Patent No. 564,199, dated July 21, 1896.

Application filed July 13, 1895. Serial No. 555,877. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. HOUSMAN, a citizen of the United States, residing at Clifton Forge, in the county of Alleghany and State of Virginia, have invented certain new and useful Improvements in Spring-Seats, of which the following is a specification.

My invention relates to seats which are supported at opposite sides by springs; and my invention consists in applying to such seats an equalizing device, which, when pressure is put upon any one part of the seat, will distribute it evenly to other parts and cause the load to be distributed over the springs and thus insure horizontalism of the seat and uniformity of action wherever the load may be placed.

My invention is preferably carried out by locating beneath the base a pair of equalizing-levers connected with opposite sides of the seat in such a way that when the load is imposed at one point it will be transmitted to other parts by levers. I prefer to employ a post at each corner of the seat and with a resisting-spring on each post, and to have the posts connected at front and back in pairs by suitable yokes which are in turn connected through a pair of fulcrumed equalizing-levers having cam connection at their meeting ends.

My invention further relates to certain novel construction and in means for controlling the inclination of the back of the seat.

In the accompanying drawings, Figure 1 is a side elevation of the seat constructed in accordance with my invention, and showing the spring back-supporting bracket partly in section to disclose the slot therein. Fig. 2 is a detail sectional view illustrating the mounting which is employed for fulcruming the equalizing-levers; and Fig. 3 is an enlarged detail view showing the connection between the meeting ends of equalizing-levers.

The chair comprises a seat 1, which may be constructed in any suitable manner or of any suitable material and upholstered in the usual way, and back 2, hinged to the seat at 3 and supported at any desired inclination by the toothed segment 4, which works in a slot 5 of a spring-bracket 6. The bracket 6 is made of springy material to offer a yielding support for the back 2, and thus take up jar

on this part, and the bracket has a reinforcing-piece 7, which is fixed parallel with the bracket by offsets, so as to strengthen the bracket without destroying its springy nature. The toothed segment 4 is under control of a disengaging-rod 8, which has connection at 9 with a slot 10 in said segment, and is mounted in bearings formed in the offset of the reinforcing-piece 7 and also in the stop 11 and projects forward for manipulation at 12. Between the stop 11 and collar 13 on the rod 8 is confined a spring 14, which serves to force the rod normally rearward and keep the teeth of the segment 4 in engagement with the end of the slot in bracket 6. When it is desired to change the inclination of the back 2, the segment 4 is drawn forward by rod 8 and the back moved to the desired position, when the rod is released and the toothed segment permitted to again engage in the slot. The slot 10 in the segment 4 permits the segment to move freely up and down without affecting its control by said rod.

15 are the vertical corner-posts which support the chair, and these posts fit in bearings 16 in the base 17 and are surrounded by coil-springs 18, which receive any load which is placed upon the chair. The posts 15 extend through base 17 and are connected in pairs at front and back by yokes 19, secured at fixed points on the posts 15 by upper and lower nuts 21. The posts being thus connected in pairs, the yokes 19 are perforated at 22 for the reception of rounded ends 23 of a pair of equalizing-levers 24 24^a, which are fulcrumed at 25 in bearings 26 and have cam connection 27 at their meeting ends.

As will be seen upon reference to Fig. 2, the bearings 26 are each formed of a pair of ears 28 in which the levers 24 24^a are fulcrumed by pins 25, and said bearings 26 are connected to the base of the chair in any suitable manner, such, for instance, as by bolts 30. It will further be seen by reference to Fig. 3 that the lever 24 is of less thickness than the bifurcated end of lever 24^a, so as to work in a slot 31 in the lever 24^a, and connected to said lever 24^a by a pin 32, which passes through the narrow lever 24 and works in a transverse slot 33 in lever 24^a. The nature of this connection is such that when pressure is put on

either yoke, it will depress the lever to which it is connected and the movement of this lever will transmit a similar movement through pin 32 and slot 33 to the other lever, which will in turn transmit to the opposite yoke exactly the same movement as takes place in that yoke which is beneath the load placed upon the seat.

The construction above described permits easy and ready adjustment of the back, and by reason of the equalizer a load placed upon any point causes a depression of the seat uniformly at all points and distributes the load over all the springs. I have constructed this seat in a manner which adapts it for use on locomotives, but it is obvious that the style and shape of the parts may be varied, ornamented, or designed in various ways to suit special uses to which it is obvious the invention is applicable, and I desire it to be further understood that the equalizing feature of my invention is adapted for other uses than transmitting uniform action to different parts of the chair-seat.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In combination with a seat having a swinging back and a toothed segment 4; the rearwardly-projecting spring-bracket 6 in which said segment engages, the controlling-rod 8 and the reinforce 7, rigidly secured parallel to said spring-bracket by offsets and having bearings in the offsets in which the rod reciprocates for the purpose set forth.

2. In combination with a seat having a swinging back; the toothed segment 4, the bracket 6, and the reciprocating rod 8, located beneath the seat connected to the segment 4

through the medium of a slot 10 for controlling the segment 4 while permitting its up-and-down movement and terminating near the front end of the seat as explained.

3. The combination of the body to be supported, the base, the posts, carried by said body reciprocating vertically in suitable bearings in the base, springs surrounding the posts and confined between the chair seat and base, yokes joining the posts in pairs and a pair of equalizing-levers centrally pivoted to the respective yokes, for the purpose set forth.

4. The combination of a body to be supported, springs supporting the same, the vertically-reciprocating posts projecting downwardly from the four corners of said body, yokes through which the posts pass and a pair of levers fulcrumed upon the base connected centrally to the respective yokes and having cam connection at their meeting ends, substantially as and for the purpose set forth.

5. The combination of a chair, the vertically-reciprocating posts at the four corners of the chair, suitable bearings through which the posts work, springs for supporting the chair, yokes connecting the lower ends of the posts in pairs at front and back, and a pair of suitably-fulcrumed equalizing-levers having cam connection at their meeting ends, and centrally connected by pins and perforations with the yokes, substantially as and for the purposes set forth.

JAMES H. HOUSMAN.

Witnesses:

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W. H. MAZALES.